Kaspersky Anti-Virus 8.0 for Lotus Domino

Implementation Guide

APPLICATION VERSION: 8.0

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ADDITIONAL SOURCES OF INFORMATION ABOUT THE APPLICATION

If you have any questions related to purchasing, installing or using Kaspersky Anti-Virus 8.0, answers are available from a variety of different sources. You can choose the most suitable source of information, depending on the importance and urgency of your inquiry.

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SOURCES OF INFORMATION TO RESEARCH ON YOUR OWN

You can refer to the following sources of information about the application:

- Application page on the Kaspersky Lab website
- Application page on the Technical Support website (in the Knowledge Base)
- Help system
- Documentation

Page on the Kaspersky Lab website

http://www.kaspersky.com/anti-virus_lotus_domino

This page contains general information about Kaspersky Anti-Virus, its features, and specifics of working with it. You can purchase Kaspersky Anti-Virus or extend your license at the online store.

Application page at the Technical Support website (Knowledge Base)

http://support.kaspersky.com/lotus

On this page you can find articles created by Technical Support specialists.

These articles contain useful information, recommendations and answers to frequently asked questions (FAQ) related to purchasing, installing and using Kaspersky Anti-Virus. They are grouped by topic, for example, "Working with key files", "Updating databases" or "Troubleshooting". The articles may contain answers to questions related not only to Kaspersky Anti-Virus, but to other Kaspersky Lab products as well, and may contain general Technical Support news.

Help system

Help contains information about how to manage server protection: how to view protection status information, configure component protection, enable and disable protection components, start a scan of the server database, and update anti-virus databases manually.

To open Help, click the **Help** tab in the Control center window of databases.

Documentation

The Kaspersky Anti-Virus documentation package contains nearly all information necessary for working with the application. It consists of the following documents:

- The **Administrator's Guide** contains information about how to use the application, configure it and manage the protection of one server or a group of servers through a Lotus Notes client. The guide also tells you about the application's web interface and the Domino server console.
- The **Implementation Guide** allows administrators to plan for deployment of the application on a network, and contains practical recommendations on how to install, set up, or delete the application on one server or on all protected servers in the network.

CONTACTING THE SALES DEPARTMENT

If you have questions about selecting or purchasing the Kaspersky Anti-Virus or extending your license, please phone the Sales Department in our Moscow Central Office, at:

+7 (495) 797-87-00, **+7 (495) 645-79-39**, **+7 (495) 956-70-00**

Our specialists speak English and Russian.

You can also send your questions to our Sales Department by email to sales@kaspersky.com.

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Send a mail message with your comments and questions to the Technical Documentation Development Team at docfeedback@kaspersky.com. Please write Kaspersky Help Feedback: Kaspersky Anti-Virus 8.0 for Lotus Domino in the subject field.

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In this forum you can view existing topics, leave your comments, create new topics and use the search engine.

KASPERSKY ANTI-VIRUS 8.0 FOR LOTUS DOMINO

Kaspersky Anti-Virus 8.0 for Lotus Domino (hereinafter referred to as Kaspersky Anti-Virus) provides comprehensive anti-virus protection for Domino servers. Kaspersky Anti-Virus protects email traffic and replications and scans databases stored on the protected server.

Kaspersky Anti-Virus is installed on servers that run the Microsoft Windows or Linux operating systems. It performs the following functions:

- Scanning of all incoming, outgoing, and routed email on the Domino server. The text of messages, file attachments and embedded OLE objects are scanned for threats. Kaspersky Anti-Virus detects all malware objects inside attached archives and packed .exe files, except those protected by passwords.
- Documents modified after replication are scanned. Documents on the protected server that are modified as a result of replication are scanned for threats. Outgoing replications are not scanned. Fields in Rich Text format, attached files, and embedded OLE objects in documents are scanned for threats.
- Scanning of databases on the protected Domino server are performed according to a schedule or on demand. Fields in Rich Text format, attached files, and embedded OLE objects in documents are scanned for threats.
- Objects are filtered by size and name mask when email messages, replications, and databases are scanned. Filtered objects are processed according to rules set by the administrator.
- Processing of objects that are infected, potentially infected, and not scanned, which are detected when email messages, replicated documents and database documents are scanned. Depending on the values of the protection / scan settings, Kaspersky Anti-Virus disinfects, deletes or skips the object, notifies administrators of detected threats and processing results, and saves statistical information.
- Senders and recipients of messages, as well as administrators, are notified of infected, potentially infected, and objects not scanned that are detected in messages. They also are notified of any remedies undertaken.
- Notification of the threat of virus epidemics. Kaspersky Anti-Virus notes any attempts for mass distribution of infected, potentially infected and damaged objects in messages and notifies administrators.
- Kaspersky Anti-Virus notifies administrators of objects detected when scanning replicated documents and database documents, and of remedies undertaken.
- Kaspersky Anti-Virus stores infected and potentially infected objects in Quarantine. Saved messages and documents identified during a replication scan and documents identified during a database scan are grouped by type (mail / replications / scanning).
- Information detected about objects that are infected, potentially infected and not scanned, and information about actions performed, is stored in the Worklog and statistics database and is also displayed in the Domino server console.
- Anti-virus databases are updated over the Internet both automatically and manually. Kaspersky Lab's FTP and HTTP update servers on the Internet, FTP and HTTP servers containing updates, and local and network directories can serve as update resources.

Search for threats and disinfection of infected objects are performed on the basis of anti-virus database records. The anti-virus databases contain descriptions of all currently known threats and of methods to disinfect objects infected with these malicious programs. The databases also contain descriptions of potentially dangerous software.

It is extremely important to keep anti-virus databases up-to-date, because new threats appear every day.

The anti-virus databases on Kaspersky Lab's servers are updated every hour. We recommend that you update the application's anti-virus databases just as frequently.

- Managing Kaspersky Anti-Virus installed on several servers using profiles.
- Access to Kaspersky Anti-Virus settings and control is restricted at the server and profile levels.
- Managing Kaspersky Anti-Virus through the Lotus Notes client, Domino console server, and web browser.
- The application can be installed or deleted through the Lotus Notes client or web browser.

HARDWARE AND SOFTWARE REQUIREMENTS

To function properly, Kaspersky Anti-Virus has the following minimum requirements.

Hardware requirements:

- Intel Pentium 32 bit / 64 bit or higher (or equivalent)
- 512 MB of RAM (1GB or more recommended)
- 1 GB of free space on the hard drive (3 GB or more recommended)
- Recommended size of swap file: twice as large as the physical memory.

Software requirements:

Supported operating systems:

32-bit platforms:

- Microsoft Windows 2000 Server (Service Pack 4 or higher)
- Microsoft Windows 2000 Advanced Server (Service Pack 4 or higher)
- Microsoft Windows Server 2003 Standard Edition (Service Pack 2)
- Microsoft Windows Server 2003 Enterprise Edition (Service Pack 2)
- Novell SUSE Linux Enterprise Server 10 (Service Pack 2)
- Red Hat Enterprise Linux 5 (Service Pack 3)

64-bit platforms:

- Microsoft Windows Server 2003 x64 Edition (Service Pack 2)
- Novell SUSE Linux Enterprise Server 10 (Service Pack 2)
- Red Hat Enterprise Linux 5 (Service Pack 3)

Supported Lotus Notes/Domino servers:

- Lotus Notes/Domino version 6.5
- Lotus Notes/Domino version 7.0
- Lotus Notes/Domino version 8.0
- Lotus Notes/Domino version 8.5

Supported browsers:

- Windows Internet Explorer 7
- Windows Internet Explorer 8
- Mozilla Firefox 3.6
- Google Chrome

APPLICATION ARCHITECTURE

Kaspersky Anti-Virus consists of the following modules:

- **Control module** – Provides the following functions in Kaspersky Anti-Virus:
  - Application management: Initiates scans of email and replications, and runs scans of databases and scheduled updates of anti-virus databases.
  - Settings management: Receives and applies new settings.
  - Storage and analysis of statistical information: Logs statistical information and information about operational events in the Worklog and statistics database and sends notifications to administrators.
  - Notifications: Sends email notifications about infected, potentially infected and damaged objects detected during scanning.
  - Notifications about epidemics: Monitors the number of infected, potentially infected, and damaged objects detected during scanning of email messages, and monitors the number of objects that contain an identical threat. The control module also notifies administrators if an excessive number of objects are detected in a specified time interval.
  - License management: License activation, analysis of license information, installation, and key file deletion.
- **Email and replication scan module** – Performs anti-virus scans of email messages and replications.
- **Database scan module** – Performs anti-virus scans of Domino server databases.

All modules are loaded automatically when the Domino server is started. Information about modules can be recorded in the Worklog and statistics database, written to the log files, and displayed on the Domino server console.

All databases are stored in the staging directory for Kaspersky Anti-Virus databases (by default, the kavdatabases directory).

The application includes the following databases:

- Control center database (kavcontrolcenter.nsf) is used to manage and store Kaspersky Anti-Virus settings.
- Quarantine database (kavquarantine.nsf) is used to store quarantined objects and take actions on them.
- Worklog and statistics database (kaveventslog.nsf) is used to store events registered in Kaspersky Anti-Virus operation and statistical information about scanned objects and actions taken on them.
- Help database (kavhelp.nsf) contains reference information about Kaspersky Anti-Virus.

The above databases are accessed via the user interface of the Control center database.

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ANTI-VIRUS SERVER PROTECTION SCHEME

Kaspersky Anti-Virus protects replications and scans databases stored on the server. Server protection consists of the following components: mail protection, replication protection, and database scanning.

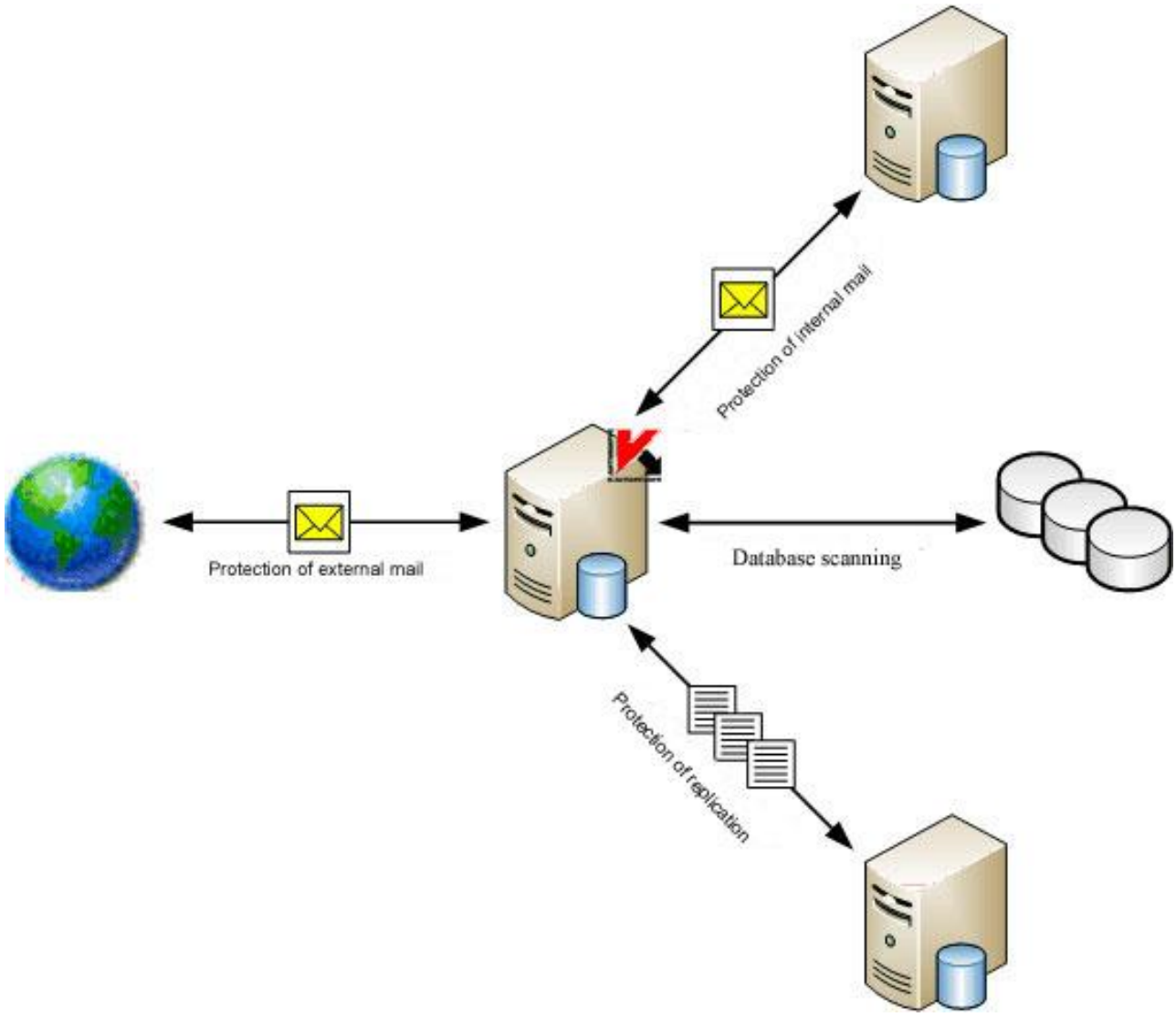

Figure 1: Domino anti-virus server protection scheme

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APPLICATION OPERATION SCHEME

The application operation scheme provides for the following:

1. **Control module** receives information from the Domino server about an incoming message to the mail.box service database on the protected server, or about an attempt to perform a replication on the protected server. **Control module** sends an email message, or a document that was modified as a result of replication, to **Email and replication scan module**.

2. **Email and replication scan module** scans the message or document and processes it in accordance with the email or replication protection settings. The following actions are performed:

   - Scanned objects are selected. Email messages are divided into header, message body, attachments, and OLE objects. In a document, fields in Rich Text format, attachments, and OLE objects are selected.

   - Attached objects are filtered (see section "Attachment filtering algorithm" on page 19) by size and (or) by name.

   - Objects are scanned for threats (see section "Anti-virus scanning algorithm" on page 18).

   - Not infected objects are skipped, and other objects are processed according to the protection settings (see section "Processing objects and actions performed on them" on page 20). A copy of an object can be saved in the Quarantine database before it is processed.

   - Processed messages are sent to the Lotus Domino system for dispatch. Processed documents are stored in the databases.

3. **Control module** sums up, in accordance with the settings for notifications about epidemics, the number of infected, potentially infected and damaged objects detected when scanning email messages and the number of objects containing an identical threat.

4. In accordance with the database scanning schedule or a manual command to begin scanning, the **Control module** sends a command to the **Database scan module** to begin scanning. **Database scan module** generates a list of scanned documents in accordance with the scan settings and then scans the documents according to this list. The algorithm to scan documents is identical to the document scanning algorithm in the **Message and replication scan module**.

ANTI-VIRUS SCANNING ALGORITHM

Kaspersky Anti-Virus analyzes objects sent for anti-virus scanning according to the following algorithm:

1. Objects are scanned on the basis of records in the anti-virus databases. Kaspersky Anti-Virus compares objects with database records and determines whether they are harmful, to which category of dangerous programs they belong, and which treatments can be applied to them.

The anti-virus databases contains descriptions of, and ways to neutralize, all types of potentially dangerous programs that are known of when the anti-virus databases are created: malware, joke applications, potentially dangerous applications, and programs that are not potentially harmful but that could be part of software to develop harmful applications.

Incremental scanning is used to check objects – files are rescanned only when they are modified, that is, if the date of the last revision precedes the date of the most recent scan, the file will not be scanned. Incremental scanning can be disabled by setting the following variable: KAVNonIncrementalScan=1. By default, this variable is not set.

Based on the scan results, the object is assigned one of the following statuses:

- *Not infected* – The object does not contain any threats.
- *Object which cannot be disinfected* – The object contains a threat that cannot be neutralized by using current anti-virus databases; no remedy is available for such objects.
- *Disinfectable* – The object contains a threat that can be neutralized by using current anti-virus databases; after treatment the object will be assigned the "not infected" status.
- *Not scanned* – Kaspersky Anti-Virus was unable to scan the object; the object can be a password-protected archive or an archive compressed with an unknown algorithm, or the scan encountered an error or timed out.

2. After being scanned by anti-virus databases, an object that is classified as not infected is then scanned by the heuristic analyzer. Kaspersky Anti-Virus uses special mechanisms to analyze the activity of objects being scanned in the system. If such activity is typical of harmful objects, the object will be classified as *potentially infected*: This means that the object code contains either modified code from a known virus or code that resembles a virus, but which has yet to be identified and described in Kaspersky Lab's anti-virus databases.

ATTACHMENT FILTERING ALGORITHM

Kaspersky Anti-Virus filters objects attached to email messages and documents. If an object satisfies the filter conditions, it is assigned the status set by the filter values. No further anti-virus scans are carried out on the object. Objects are processed according to the status assigned to them during filtering: Actions configured for objects of this status are applied according to mail protection, replication protection and database scanning settings (see section "Processing objects and actions performed on them" on page 20).

The application can apply the following filters to attachments:

- **Filter by size**. Kaspersky Anti-Virus checks the size of attached objects. If the size of an object exceeds the maximum value allowed, the object is assigned the status specified by the filter settings and is skipped by the anti-virus scan. Objects that do not exceed the maximum size are sent to be scanned.
- **Filter by name**. Kaspersky Anti-Virus checks the names of objects attached to a message. If the name of the object satisfies the filter mask, the object is assigned the status specified by the filter settings and is skipped by the scan. If the name of the object does not match any of the filter mask values, the object is sent for anti-virus scanning.

If the protection settings are configured for both types of attachment filtering, Kaspersky Anti-Virus first scans the size of the object. Next, if the size of the object is less than the value set in the filter settings, Kaspersky Anti-Virus scans the name of the object. If the size of the object is more than the value set in the filter settings, Kaspersky Anti-Virus does not scan the name of the object.

Based on the scan results, the object can be assigned one of the following statuses:

- Not infected
- Cannot be disinfected
- Not scanned

- Potentially infected

The attachment filter settings are configured in the mail protection, replication protection, and database scan settings for each protection component individually.

PROCESSING OBJECTS AND ACTIONS PERFORMED ON THEM

Kaspersky Anti-Virus processes objects in accordance with the status assigned to them as a result of anti-virus scanning (see section "Anti-virus scanning algorithm" on page 18) and filtering of attachments (see section "Attachment filtering algorithm" on page 19). Not infected objects are returned without any modifications to the Lotus Domino server databases (replication protection and database scanning) or to the Lotus Domino mail system (mail protection). The following actions can be performed on the remaining objects:

- **Disinfect**. Kaspersky Anti-Virus disinfects the object on the basis of information in the anti-virus databases about the threat detected. The threat is neutralized and the object is classified as "not infected" and is stored in the database by its source address or returned to the mail system. The action is only provided for disinfectable objects.

  Regardless of the application settings, OLE objects are disinfected by deleting only.

- **Skip**. Kaspersky Anti-Virus passes the object without any modifications.

- **Delete**. Kaspersky Anti-Virus deletes the object from a document or email message.

Actions to be performed by the application are defined separately for each status in the mail protection, replication protection and database scanning settings.

A copy of an object can be saved in the Quarantine database before it is processed. Information about actions performed can be stored in the Worklog and statistics database.

Kaspersky Anti-Virus can notify administrators and the senders and recipients of email messages (mail protection) about detected objects and actions taken.

MANAGING KASPERSKY ANTI-VIRUS SETTINGS

Kaspersky Anti-Virus is managed by using the profile and server settings.

Profile is defined by the general settings for the group of servers in the profile. The profile mechanism provides centralized control of the Kaspersky Anti-Virus settings.

A profile can include one or more servers. If Kaspersky Anti-Virus uses an isolated deployment scheme (see page 26), the profile contains only one server.

Profiles can be used to configure all application settings, except the server license and Quarantine storage period. These two settings are only for an individual server and are defined in the server settings. In addition, some server settings can be redefined by the profile. This possibility allows values to be set for an individual server that correspond to the role of the server in the anti-virus protection system and that differ from the values set in the profile. Among such server settings, for example, are update settings, settings for saving information about events logged by Kaspersky Anti-Virus, and statistical information.

Server documents are added to the profile automatically when Kaspersky Anti-Virus is installed on them. Server documents are deleted from the profile automatically when the application is deleted. Only protected Kaspersky Anti-Virus servers are included in the profile.

You can create and delete profiles. Servers with Kaspersky Anti-Virus installed on them can be moved from one profile to another.

You can use profiles to set the Kaspersky Anti-Virus settings for a group of servers, for example, based on their geographical location, functions or other factors. This makes it easier to manage the application if it is installed on several servers and allows the anti-virus security status on all computers to be controlled centrally.

You can also use profiles to create a protection system with various levels of security, for example, for mail servers or database servers. To do this, you can create several profiles with different settings. To assign a specified security level to a server or group of servers, simply move the servers to the profile with the required settings.

You can use server settings to configure individual values corresponding to the functions of the server in the organization's network. For example, the server settings can be used to configure a centralized scheme to update anti-virus databases.

All information about the Kaspersky Anti-Virus settings is stored in the Control center database – kavcontrolcenter.nsf. The Control center database is created in the staging directory of the Kaspersky Anti-Virus database when the application is installed (by default, this is the kavdatabases directory). At the same time, a profile is created in the database and the protected server is added. The profile and server settings are assigned the default values.

If Kaspersky Anti-Virus uses a distributed deployment scheme (see page 26), the kavcontrolcenter.nsf database contains information about the operation of Kaspersky Anti-Virus on each of the servers on which the application is installed. A database is created on one of these servers during installation and a replica of the existing Control center database is created on each subsequent server. A database from one of the servers (selected by the administrator) on which Kaspersky Anti-Virus is already installed is taken as a basis. The new protected server is added to the profile containing the server from which the replica kavcontrolcenter.nsf database was created. The server settings are assigned the default values. When Kaspersky Anti-Virus is deleted from one of the servers, information about this server is deleted from the profile and from the Control center database.

If there is an isolated deployment scheme, the kavcontrolcenter.nsf database is placed on one server and contains information about the configuration of this server only.

To configure and manage Kaspersky Anti-Virus, open the kavcontrolcenter.nsf database.

Rights to open the kavcontrolcenter.nsf database and configure and manage Kaspersky Anti-Virus are granted only to authorized users from one of three functional groups: **Security administrators**, **Control center administrators** and **Administrators with limited privileges** (see section "Managing permissions at the ACL level of the Kaspersky Anti-Virus databases" on page 23). Before opening the database, make sure that the user account is authorized to perform the required operations (create, delete, and configure profiles, configure servers, and so forth).

The kavcontrolcenter.nsf database can be opened on any of the protected servers using the Lotus Notes client or web browser.

By default, changes to the profile and server settings are made to the database replica, which is located on the server to which it is connected. During the replication process, any changes are distributed to all other protected servers. There may be some delay before the new settings are applied. For this reason, the topology of the replications must be taken into account when selecting the server on which to configure the settings.

If you are using Kaspersky Anti-Virus through a Lotus Notes clients, changes to the settings can be made to the Control center database replica located on the server whose settings you are editing, regardless of which server is connected. In this case, the new server settings will be applied much faster. When using a browser, the option of making changes to the Control center replica is not supported and changes to the server settings are always made to the open replica.

The Control center database can be run simultaneously from several workstations or in parallel through a web browser and Lotus Notes client. In such a case, a conflict in the replications could occur if the settings of a profile or server are modified by two or more users simultaneously. In addition, it is not recommended to simultaneously modify the server settings and the settings of the profile that contains the server. The server settings can be automatically redefined when the new profile settings are applied.

CONFIGURING THE DOMINO SERVER SECURITY SETTINGS

In order to correctly run, install and delete Kaspersky Anti-Virus, you need to configure the Domino server security settings as specified in the table.

Table 1. List of Domino server security settings

SECURITY SETTINGS	SETUP	WORK CYCLE	DELETION
Using a remote Domino server	Sending console commands to the primary and secondary setup server.	Sending console commands to any server using a common Control center replica.	Automatically rebooting the Domino server before deleting service data.
Creating databases and database templates	Creating a database of templates with a server, used to sign the design of the Installing Kaspersky Anti-Virus database.	Not required.	Not required.
Creating database replicas	Creating a database replica with the primary and secondary setup server.	Not required.	Not required.
Performing unrestricted methods and operations	Background agents use run commands with the server file system: create directories, view directory contents, call external server-side applications, handle RichText content.	Background agents use run commands with the server file system: create directories, view directory contents, call external server-side applications, handle RichText content.	Background agents use run commands with the server file system: create directories, view directory contents, call external server-side applications, handle RichText content.
Trusted servers	Background agents of the secondary setup server refer to the primary setup server database.	Server background agents refer to database of any other server using a common Control center replica.	The agent refers to the Installing Kaspersky Anti-Virus database of the secondary setup server and to the Control center database of the primary setup server.

MANAGING USER PERMISSIONS

User permissions are managed at the ACL level of the Kaspersky Anti-Virus databases and at the level of individual documents (profile settings and server settings). Permissions at the ACL level are granted through functional groups. Permissions set at the document level are granted through functional roles (see section "Managing permissions at the level of profile and server settings" on page 25).

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MANAGING PERMISSIONS AT THE ACL LEVEL OF THE KASPERSKY ANTI-VIRUS DATABASES

To grant permissions at the ACL level of the Kaspersky Anti-Virus databases, the application provides three functional groups: **Security administrators**, **Control center administrators** and **Administrators with limited privileges**.

The composition of each functional group is defined during installation. The administrator who installs the application creates the functional groups by selecting users and (or) user groups from the Address Book of the Domino server. During installation the elements of each functional group are automatically included in the ACL of the Kaspersky Anti-Virus Lotus Notes databases.

The ACL of the Kaspersky Anti-Virus databases also includes the Default and Anonymous records and the servers on which the application is installed. Servers to be included in the ACL are specified by the administrator during installation of the application (see "Step 3. Configuring installation settings" on page 37). The servers are assigned the Manager access level with rights to create, delete, replicate and copy documents. The No access level is set for the Default and Anonymous records in the ACL of the Kaspersky Anti-Virus databases.

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FUNCTIONAL GROUP PERMISSIONS

The permissions of the functional groups in the ACL of the Kaspersky Anti-Virus databases are listed in the table below.

Table 2. Functional group permissions

FUNCTIONAL GROUPS	CONTROL CENTER DATABASE	WORKLOG AND STATISTICS DATABASE	QUARANTINE DATABASE	HELP DATABASE
SECURITY ADMINISTRATORS	Manager access level with rights to create, delete, replicate, and copy documents. AppAdmin role.	Manager access level with rights to create, delete, replicate, and copy documents.	Manager access level with rights to create, delete, replicate, and copy documents.	Manager access level.
CONTROL CENTER ADMINISTRATORS	Author access level with rights to create, delete, replicate, and copy documents. AppAdmin role.	Author access level with rights to create, delete, replicate, and copy documents.	Author access level with rights to create, delete, replicate, and copy documents.	Reader access level.
ADMINISTRATORS WITH LIMITED PRIVILEGES	Author access level with the right to replicate or copy documents.	Author access level with the right to replicate or copy documents.	Author access level with the right to replicate or copy documents.	Reader access level.

After Kaspersky Anti-Virus is installed, users and user groups included in the functional groups are granted the permissions required to use the application.

Users included in the **Security administrators** group have the maximum number of permissions in Kaspersky Anti-Virus and can perform the following actions:

- Managing permissions at the ACL level of the Kaspersky Anti-Virus databases

- Creating and deleting profiles
- Editing the settings of all profiles and servers
- Deleting records from Quarantine and Worklog and statistics databases

Users included in the **Control center administrators** group can perform the following actions in Kaspersky Anti-Virus:

- Creating and deleting profiles
- Editing the settings of all profiles and servers
- Deleting records from the Quarantine and Worklog and statistics databases

By default, users included in the **Administrators with limited privileges** group do not have the right to edit profile and server settings or to delete records from the Quarantine and Worklog and statistics databases. Users are granted the rights needed to use the application through functional roles (see section "Managing permissions at the level of profile and server settings" on page 25).

Users in all three functional groups have the right to view records in the Quarantine, Worklog and statistics, and Help databases.

GRANTING FUNCTIONAL GROUP PERMISSIONS TO USERS

When installing Kaspersky Anti-Virus, the administrator can include both individual Domino users and user groups in the three functional groups.

To simplify the procedure for granting permissions, it is recommended that you include in the functional groups not individual users, but groups created in the Address book of the Domino server (see section "Creating a group of users for granting permissions" on page 32). During installation these groups are included in the ACL of the Kaspersky Anti-Virus databases and are assigned functional group permissions (see section "Functional group permissions" on page 2323). The Domino server administrator can subsequently grant permissions to users or restrict them by modifying the groups in the Address Book (including or excluding users).

If during installation of the application only individual users, not user groups, are included in the functional groups, the ACL of all the Kaspersky Anti-Virus databases will need to be edited manually to manage the permissions. To deny a user functional group permissions, the user account must be deleted from the ACL of all the Kaspersky Anti-Virus databases. To grant a user functional group permissions, the user account must be included in the ACL of all databases.

The ACL of the Kaspersky Anti-Virus databases can only be modified by users with permissions belonging to the **Security administrators** functional group.

It is recommended that user accounts in the ACL of the Kaspersky Anti-Virus databases be included in the group.

To grant a user functional group permissions:

1. Create in the Address book of the Domino server a group with a unique name, for example, ControlCenterAdmins.
2. To this group add the user to be granted the permissions of a particular functional group, for example, the **Control center administrators** group.
3. Log on to the system under a user account with the permissions of the **Security administrators** functional group.
4. Add the ControlCenterAdmins group to the ACL of the Kaspersky Anti-Virus databases (Control center, Worklog and statistics, Quarantine, and Information) and define the permissions for the ControlCenterAdmins group to match those of the **Control center administrators** functional group (see section "Functional group permissions" on page 23).

MANAGING PERMISSIONS AT THE LEVEL OF PROFILE AND SERVER SETTINGS

To restrict access to the application at the level of individual documents (profile and server settings), the following functional roles are provided:

- *Profile administrator* – Has the rights to perform the following actions:
  - Editing the profile settings and the settings of all servers in the profile
  - Deleting records from the Quarantine and Worklog and statistics databases for servers in the profile
- *Server administrator* – Has the rights to perform the following actions:
  - Editing the server settings, including moving a server to another profile
  - Deleting records from the Quarantine and Worklog and statistics databases for the server

Profile and server administrators are assigned after the application is installed. The assignment is carried out for each server and profile separately.

Only users with permissions from one of the three functional groups can be assigned as Profile administrator and Server administrator.

By default, users and (or) user groups included in the **Control center administrators** functional group during installation are specified as administrators in the profile and server settings.

Users from the **Security administrators** and **Control center administrators** functional groups are granted the right to edit the settings of all servers and profiles, regardless of their functional role. To grant restricted permissions, for example, to edit the settings of only one profile / server, users from the **Administrators with limited privileges** functional group should be assigned as profile / server administrators. Users from this group are granted the right to edit the settings of only the profiles / servers for which they have been assigned as administrators. A user from this group who is assigned as a profile administrator is also granted the right to edit the settings of all servers in this profile.

TYPICAL DEPLOYMENT SCHEMES

This chapter contains a description of the deployment schemes in Kaspersky Anti-Virus.

The following deployment options are provided:

- *Isolated deployment scheme* – Kaspersky Anti-Virus is installed in isolated on several servers. In this case, the databases of Kaspersky Anti-Virus are deployed autonomously on each server.

- *Distributed deployment scheme* – Kaspersky Anti-Virus is installed on several Domino servers and all installed copies of Kaspersky Anti-Virus represent a single distributed system.

If the network contains several Domino servers, or a cluster of servers, it is recommended that Kaspersky Anti-Virus be installed on each server and use a distributed deployment scheme.

Server partitioning is not supported.

Kaspersky Anti-Virus is installed for each server separately.

If Kaspersky Anti-Virus uses a distributed deployment scheme (see section "Distributed deployment scheme" on page 26), an *Primary setup* is carried out first. The server on which the application is first installed is called the *primary setup server*. Kaspersky Anti-Virus is then installed on the *additional servers*.

The Kaspersky Anti-Virus databases are created on the primary setup server. The configuration and databases are subsequently replicated on the additional servers. During installation of each consecutive additional server, any of the servers on which Kaspersky Anti-Virus is already installed can be selected as the primary setup server.

If the Domino network uses a star topology for replications, it is recommended that the central hub server be selected as the primary setup server.

If an isolated deployment scheme is used, primary setup of Kaspersky Anti-Virus is carried out on each Domino server (see section "Isolated deployment scheme" on page 27).

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DISTRIBUTED DEPLOYMENT SCHEME

The distributed deployment scheme in Kaspersky Anti-Virus includes the following stages:

1. Preparing for installation. Before installing Kaspersky Anti-Virus, do the following:

   - Delete any previous version of Kaspersky Anti-Virus and other anti-virus programs for Lotus Notes/Domino from each server on which the application will be installed (see section "Deleting the previous version of Kaspersky Anti-Virus and other anti-virus programs for Lotus Notes/Domino" on page 30).

   - Set permissions for the user performing the installation (see section "Setting permissions for the user performing the installation" on page 30).

   - In the Address book of the primary setup server, create a group of servers on which Kaspersky Anti-Virus is to be installed (see section "Creating a group of installation servers in the Address book" on page 31).

- Set permissions for each server on which the application will be installed (see section "Setting server permissions" on page 31).
- In the Address book of the server, create a group of Domino users to be granted permissions to use the application (see section "Creating a group of users for granting permissions" on page 32).
- Move the installation database to the data directory of each Domino server on which the application will be installed and sign it (see section "Preparing an installation database" on page 32).
- Configure the security settings on the workstation, if the installation is performed through a Lotus Notes client (see section "Configuring security settings for the Lotus Notes client" on page 33).

2. Primary setup on a server (see section "Primary setup: configuring settings" on page 38).
3. Installation on an additional server – consecutively for each additional server (see section "Primary setup: configuring settings" on page 38).

Additional servers must be accessible to the primary setup server.

4. Preparing for operation. Before you start using the application, do the following:
   - Configure the security settings for each workstation on which Kaspersky Anti-Virus will run (see section "Preparing for operation" on page 45).
   - Activate the license to run the application on each server where Kaspersky Anti-Virus is installed, if it was activated during the installation process (see Administrator's Guide).

ISOLATED DEPLOYMENT SCHEME

The isolated deployment scheme in Kaspersky Anti-Virus includes the following stages:

1. Preparing for installation. Before installing Kaspersky Anti-Virus, do the following:
   - Delete any previous version of Kaspersky Anti-Virus and other anti-virus programs for Lotus Notes/Domino from each server on which the application will be installed (see section "Deleting the previous version of Kaspersky Anti-Virus and other anti-virus programs for Lotus Notes/Domino" on page 30).
   - Set permissions for the user performing the installation (see section "Setting permissions for the user performing the installation" on page 30).
   - In the Address book, create a group of servers on which Kaspersky Anti-Virus is to be installed (see section "Creating a group of installation servers in the Address book" on page 31).
   - Set permissions for each server on which the application will be installed (see section "Setting server permissions" on page 31).
   - In the Address book of the installation servers, create a group of Domino users to be granted permissions to use the application (see section "Creating a group of users for granting permissions" on page 32).
   - Move the installation database to the data directory of each Domino server on which the application will be installed and sign it (see section "Preparing an installation database" on page 32).
   - Configure the security settings on the workstation, if the installation is performed through a Lotus Notes client (see section "Configuring security settings for the Lotus Notes client" on page 33).
2. Primary setup on a server – consecutively for all servers on which Kaspersky Anti-Virus is to be installed (see section "Primary setup: configuring settings" on page 38).
3. Preparing for operation. Before you start using Kaspersky Anti-Virus, do the following:

- Configure the security settings for each workstation on which Kaspersky Anti-Virus will run (see section "Preparing for operation" on page 45).

- Activate the license to run the application on each server where Kaspersky Anti-Virus is installed, if it was activated during the installation process (see Administrator's Guide).

DEPLOYING THE APPLICATION

This chapter contains a description of how to install and delete Kaspersky Anti-Virus.

Kaspersky Anti-Virus can be installed on one or more Domino servers. When installed on a second and subsequent servers, the application can be run in isolation (see section "Isolated deployment scheme" on page 27) or using a distributed scheme (see section "Distributed deployment scheme" on page 26).

This chapter also describes the actions that should be taken before installing the application (see section "Preparing for installation" on page 29) and before using the application (see section "Preparing for operation" on page 45), and gives a list of modifications made to the system as a result of installing Kaspersky Anti-Virus (see section "System modifications after installation" on page 44).

The application can be installed either through the Lotus Notes client or the web browser. The installation procedure does not depend on the selected method or the operating system installed on the Domino server. However, the preparing for installation (see section "Preparing for installation" on page 29) and preparing for operation (see section "Preparing for operation" on page 45) stages differ depending on the installation method.

To start installation through the web browser, an HTTP task must be launched.

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PREPARING FOR INSTALLATION

This section describes in detail the actions that should be performed before installing the application.

Before starting the installation, make sure that the computer's hardware and software specification match the requirements of Kaspersky Anti-Virus (see section "Hardware and software requirements" on page 15).

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DELETING THE PREVIOUS VERSION OF KASPERSKY ANTI-VIRUS AND OTHER ANTI-VIRUS PROGRAMS FOR LOTUS NOTES/DOMINO

Kaspersky Anti-Virus 8.0 for Lotus Domino is incompatible with other anti-virus programs for Lotus Notes/Domino. Running Kaspersky Anti-Virus concurrently with other anti-virus programs could lead to system problems.

If other anti-virus programs for Lotus Notes/Domino are installed on the computer, it is recommended that you delete them before installing Kaspersky Anti-Virus 8.0 for Lotus Domino.

Updates for Kaspersky Anti-Virus for Lotus Domino earlier than version 8.0 are not carried out.

SETTINGS PERMISSIONS FOR THE USER PERFORMING THE INSTALLATION

The user installing Kaspersky Anti-Virus must be granted permissions to do the following:

- Create files (at the file system security level).
- Sign or run unrestricted methods and operations.
- Access the server's Address book not lower than the Reader level.

Before starting the installation, make sure that your account has these permissions.

By default, the ACL of the installation database includes the Default record with the No access level and the LocalDomainAdmins group with access at the Manager level and rights to create, delete, replicate and copy documents. If the LocalDomainAdmins group is not on the installation server, or the user installing Kaspersky Anti-Virus is not included in this group, the ACL of the installation server should be edited before starting the installation.

The ACL cannot include the Anonymous user or grant the account the necessary rights for the installation database. The Anonymous account cannot be used to collect the necessary setup information, which will cause the installation to return an error. It is important that the installation be performed by an administrator with the necessary rights.

Include the user performing the installation in the ACL of the installation database or in the group and grant him/her access at the Manager level and rights to create, delete, replicate and copy documents.

CREATING A GROUP OF INSTALLATION SERVERS IN THE ADDRESS BOOK

During the primary setup, you will need to specify the servers on which Kaspersky Anti-Virus is to be installed (see section "Primary setup: configuring settings" on page 38). The specified servers will be automatically included in the ACL of the Kaspersky Anti-Virus databases. The installation servers in the ACL are granted access at the Manager access level with rights to create, delete, replicate and copy documents.

If a distributed deployment scheme is in use, during the primary setup you should specify all the servers on which Kaspersky Anti-Virus is to be installed. Additional servers not specified during the primary setup need to be included in the ACL of the Kaspersky Anti-Virus databases manually.

To simplify the procedure for granting permissions during installation, it is recommended that you specify a group of servers from the Address book, rather than individual installation servers. Before starting the installation, create a group of servers (for example, **KavProtectedServers**) in the Address book and include in it all the servers on which Kaspersky Anti-Virus is to be installed. You can then manage the server permissions by modifying this group in the Address book.

If the installation servers were not combined into a group, and during the primary setup an additional server was not included in the ACL, it is recommended that you do the following to grant permissions to it:

1. Create in the Address book of the Domino server a group with a unique name, for example, **KavProtectedServers**.

2. Add the server that requires permissions to the **KavProtectedServers** group.

3. Log on to the system under the user account in the **Security administrators** functional group.

   The ACL of the Kaspersky Anti-Virus databases can only be modified by users with permissions belonging to the Security administrators functional group.

4. Add the **KavProtectedServers** group to the ACL of the Kaspersky Anti-Virus databases (Control center, Worklog and statistics, Quarantine) and for the **KavProtectedServers** group define the permissions corresponding to those of the installation server: Manager level access with rights to create, delete, replicate and copy documents.

SETTING SERVER PERMISSIONS

If a distributed deployment scheme is in use, each server on which installation was performed must be granted permission to do the following:

- Use the full remote console as an administrator
- Sign or run unrestricted methods and operations
- Create databases & templates
- Create new replicas

In addition, all servers on which Kaspersky Anti-Virus was installed must be included in the Trusted Servers list of each server.

Security settings and servers are configured on the **Security** tab of the Server document.

To manage server permissions, it is recommended that you use a group created in the Address book (see section "Creating a group of installation servers in the address book" on page 31).

Following the successful installation of all the servers, you can remove permissions from the installation servers to do the following:

- create databases & templates
- create new replicas

These permissions are not required for Kaspersky Anti-Virus to operate properly.

CREATING A GROUP OF USERS FOR GRANTING PERMISSIONS

Users are granted permissions to operate Kaspersky Anti-Virus by including them in the following functional groups: **Security administrators**, **Control center administrators** and **Administrators with limited privileges** (see section "Managing permissions at the ACL level of the Kaspersky Anti-Virus databases" on page 23). You will need to define the composition of these groups during installation of the application.

The functional groups are formed only during the primary setup of Kaspersky Anti-Virus.

To simplify the procedure for granting permissions, it is recommended that functional groups contain not individual users, but groups of users from the Address book of the Domino server. Before starting the installation, in the Address book of the Domino server create user groups that you will use to grant permissions to operate the application. There are no restrictions on the names of the groups. For example, create the following groups:

- **SecurityAdmins** – a group that will be included in the **Security administrators** functional group.
- **ControlCenterAdmins** – a group that will be included in the **Control center administrators** functional group.
- **RestrictedAdmins** – a group that will be included in the **Administrators with limited privileges** functional group.

The composition of each functional group is defined during installation of the application (see section "Primary setup: configuring settings" on page 38).

When Kaspersky Anti-Virus is first installed, the user groups that will be granted permissions under the **Control center administrators** and **Administrators with limited privileges** functional groups can be empty. Following installation of the application, users that require certain permissions can be added to them. A user group that will be granted permissions under the **Security administrators** functional group must contain at least one user from the Address book.

PREPARING AN INSTALLATION DATABASE

The Lotus Notes database file represents the installation file.

Before starting the installation of Kaspersky Anti-Virus, move the installation database to the data directory of the server on which the installation is being performed and sign its account, which is authorized to perform operation on the server (see section "Setting server permissions" on page 31).

It is recommended that you sign the installation database of the account of the server on which the installation is being performed.

If the application is being installed on several servers, the signed installation database should be placed on each server.

When installing on an additional server, you can use the installation database that was signed prior to the primary setup. Copy it from the data directory of the primary setup server.

Reboot the Domino server.

PREPARING A KEY FILE

If the key file is available, you can activate the license during installation of the application.

In order to be able to activate the license during installation of the application, make sure that the key file is accessible via the file system of the client computer from which the installation database was opened.

If the key file is not available at the start of installation, the license can be activated after the application has been installed (see more details in the Administrator's Guide).

CONFIGURING SECURITY SETTINGS FOR THE LOTUS NOTES CLIENT

If installation is being performed through the Lotus Notes client, you should first set up the action control table on the workstation from which the connection to the server will be made.

Assign the following access rights and permissions to perform actions on the workstation to the account that was used to sign the installation database (see figure below):

- Access rights:
  - File system
  - External code
  - Current Notes database
  - Environment variables
  - External programs
  - Non-Notes databases
- Permissions:
  - Send mail
  - Read other Notes databases
  - Export data

- Modify other Notes databases

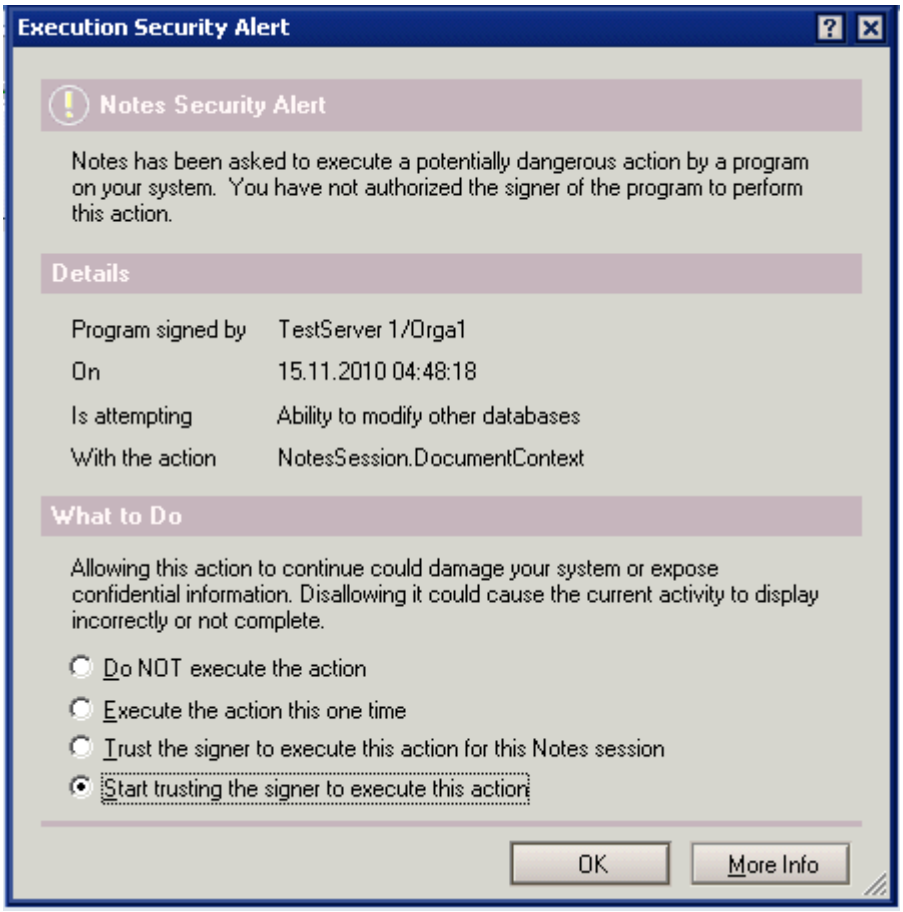
Execution Security Alert
Notes Security Alert
Notes has been asked to execute a potentially dangerous action by a program on your system. You have not authorized the signer of the program to perform this action.
Details
Program signed by TestServer 1/Orga1
On 15.11.2010 04:48:18
Is attempting Ability to modify other databases
With the action NotesSession.DocumentContext
What to Do
Allowing this action to continue could damage your system or expose confidential information. Disallowing it could cause the current activity to display incorrectly or not complete.
Do NOT execute the action
Execute the action this one time
Trust the signer to execute this action for this Notes session
Start trusting the signer to execute this action
OK
More Info

Figure 2: Adjusting the security settings of the Lotus Notes client to work with Anti-Virus

INSTALLING THE APPLICATION

This section describes how to install the application. Primary setup and installation on an additional server share many common steps (see table below). If the steps differ, the actions for each type of installation are described separately in the relevant subsections.

Table 3. Steps for primary setup and installation on an additional server

PRIMARY SETUP	INSTALLATION ON AN ADDITIONAL SERVER
1. Starting the installation.	1. Starting the installation.
2. Accepting the License Agreement.	2. Accepting the License Agreement.
3. Setting up primary setup.	3. Setting up installation on an additional server.
4. Starting and performing installation. a. Checking installation setup. b. Creating databases. c. Configuration. d. Copying service files. e. Generating environment variables.	4. Starting and performing installation. a. Checking installation setup. b. Configuration. c. Creating databases. d. Copying service files. e. Generating environment variables.
5. Activating the license (the step can be skipped if the key file is not available).	5. Activating the license (the step can be skipped if the key file is not available).
6. Finishing the installation.	6. Finishing the installation.

At the "Creating databases" step during the primary setup, the kavsetuplog.nsf setup log is created in the directory containing the Kaspersky Anti-Virus databases (see section "Performing automatic stages for primary setup" on page 41). The log records information about events registered during installation of the application, including errors. Information about errors is additionally recorded in the Domino server log, output to the server console and displayed as messages in a separate window.

There follows a detailed description of each step for installing Kaspersky Anti-Virus.

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Step 1. Starting the installation 35

Step 2. Accepting the License Agreement 36

Step 3. Configuring installation settings 37

Step 4. Launching and performing automatic installation steps 40

Step 5. Activating the license 43

Step 6. Finishing the installation 44

STEP 1. STARTING THE INSTALLATION

Before starting the installation, make sure that your account has all the necessary permissions (see section "Setting permissions for the user performing the installation" on page 30). User authorization is required for installation via the web browser as for the Lotus Notes client. Installation is not possible if authorization is disabled.

➡ *To begin installing Kaspersky Anti-Virus, do one of the following:*

- Open your browser and enter the following address in the Address bar:

  `http://<server_name>/<path_to_installation_database>?OpenDatabase`, where:

  - `<server_name>` is the name or IP address of the server on which Kaspersky Anti-Virus is being installed.

- <path_to_installation_database> is the path to the installation database relative to the data directory of the server.

- In the Lotus Notes client, open the installation database located in the data directory of the server.

This will open the setup window. All further operations to install the application are performed in this window.

If Kaspersky Anti-Virus is not installed on the server, the setup window will display the text of the License Agreement.

If the application is already installed on the server, the setup window will display information about the system and the **Delete** button. To reinstall Kaspersky Anti-Virus, you should first delete the previously installed version of the application (see section "Deleting Kaspersky Anti-Virus" on page 47).

STEP 2. ACCEPTING THE LICENSE AGREEMENT

You can read the text of the License Agreement in the setup window. To continue the installation, you must accept the terms and conditions.

To accept the terms and conditions of the License Agreement,

Click the **Accept** button.

The following information is displayed in the setup window (see figure below):

- System information.
- Deployment settings.
- Security.
- Kaspersky Anti-Virus installation directories.

- List of automatic installation steps.

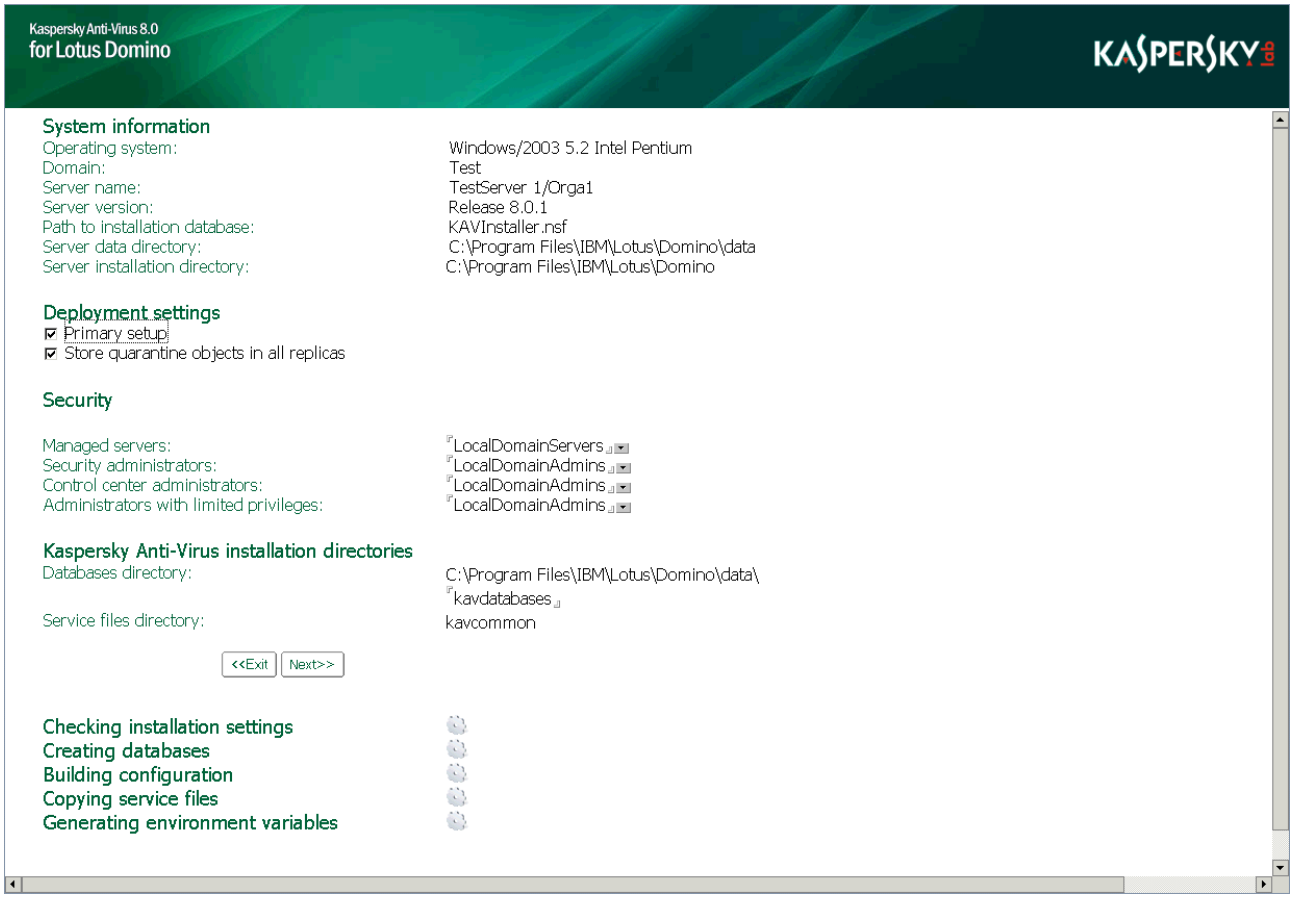

Figure 3: Kaspersky Anti-Virus installation window

The **Next** button is used to launch the automatic installation steps.

STEP 3. CONFIGURING INSTALLATION SETTINGS

Configure the installation settings. The sequence of actions is different for primary setup (see section "Primary setup: configuring settings" on page 38) and installation on an additional server (see section "Installation on an additional server: setup" on page 39).

The primary setup sequence is the default option.

IN THIS SECTION

Primary setup: configuring settings 38

Installation on an additional server: setup 39

PRIMARY SETUP: CONFIGURING SETTINGS

To set up primary setup, do the following:

1. If the installation is performed by means of the Lotus Notes client, make sure that the **Primary setup** check box is checked (see figure below).

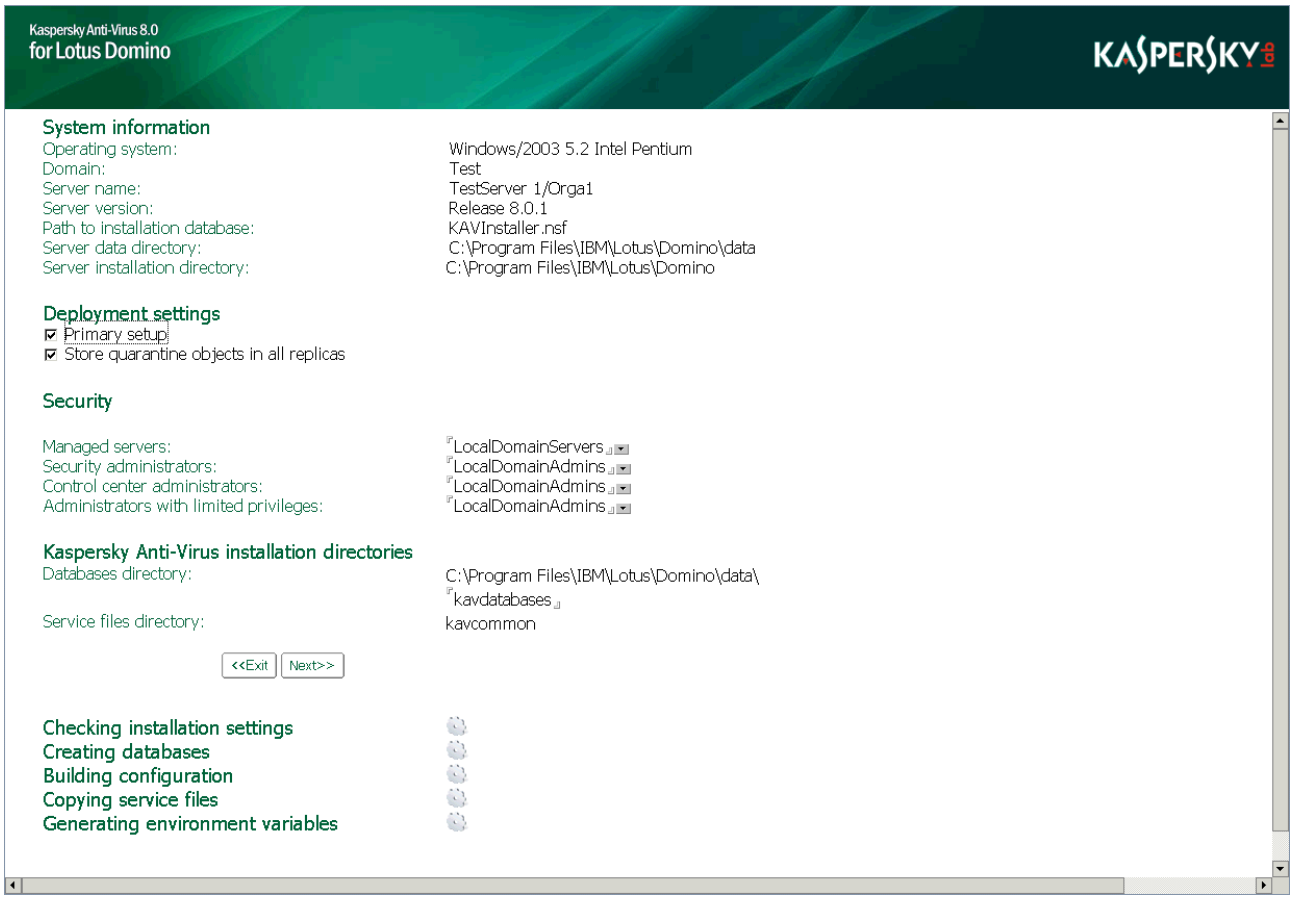

Figure 4: Primary setup settings

2. In the **Deployment settings** field, check the **Store quarantine objects in all replicas** check box:

   - If this check box is checked, the Quarantine database will store all objects from its own server and all other servers included in the distributed configuration. The system information displays the **Store quarantine objects in all replicas** value.

   - If this check box is not checked, all replicas of the Quarantine database will store only objects from their own servers. The system information displays the **Quarantine replicas contain only objects from their server** value.

3. In the **Managed servers** field, specify the group of servers on which Kaspersky Anti-Virus is to be installed.

   You can specify the names of groups of servers or the names of individual servers. To simplify the procedure for managing permissions, it is recommended that you use groups (see section "Creating groups of installation servers in the Address book" on page 31).

   Select a group of servers from the Address book of the Domino server by clicking the button to the right of the input field, or enter the name of the group manually. You can specify one or more groups in each field.

   The default value in the **Managed servers** field is the **LocalDomainServers** group.

4. In the **Security administrators**, **Control center administrators** and **Administrators with limited privileges** fields, specify the Domino user groups to be included in the functional groups of the same name (see section "Creating a group of users for granting permissions" on page 32).

   You can specify the names of user groups or the names of individual users. To simplify the procedure for managing permissions, it is recommended that you use groups (see section "Managing permissions at the ACL level of the Kaspersky Anti-Virus databases" on page 23).

   Select a group of users from the Address book of the Domino server by clicking the button to the right of the input field, or enter the name of the group manually. You can specify one or more groups in each field.

   The default value of the **Security administrators**, **Control center administrators** and **Administrators with limited privileges** is the **LocalDomainAdmins** group.

5. In the **Database directory** field, enter the path to the directory in which the Lotus Notes databases for Kaspersky Anti-Virus will be installed on the server. The default value of the field is the `kavdatabases` directory.

INSTALLATION ON AN ADDITIONAL SERVER: SETUP

To set up installation on an additional server, do the following:

1. If the Lotus Notes client is used to perform the installation, clear the **Primary setup** check box. The fields in the setup window will be updated (see figure below).

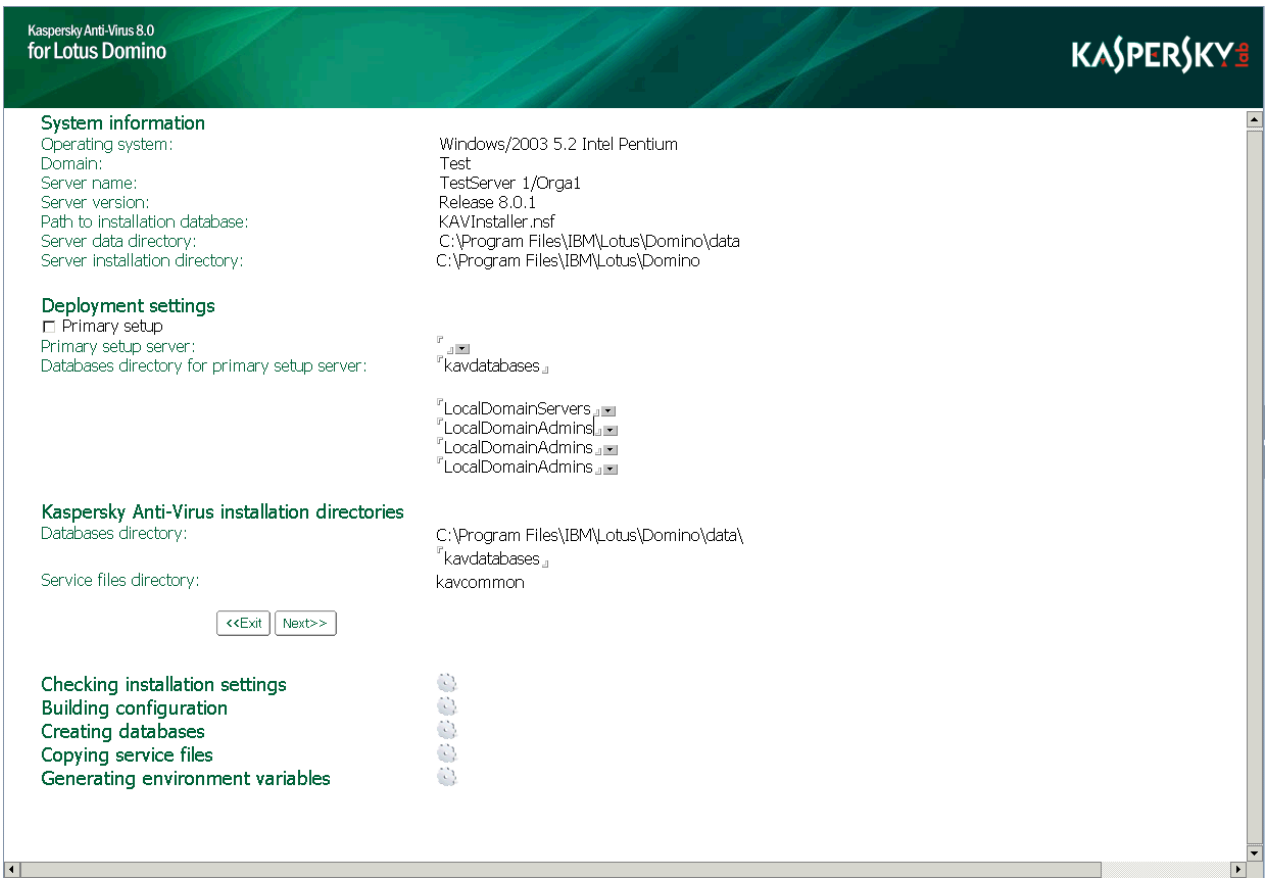

Figure 5: Settings of installation on an additional server

2. In the **Primary setup server** field, specify the server on which the application is already installed. The Kaspersky Anti-Virus databases will be replicated from this server onto the additional server. Select a server

from the Address book of the Domino server by clicking the button to the right of the input field, or enter the name of the server manually.

3. In the **Databases directory for primary setup server** field, enter the path to the Lotus Notes databases for Kaspersky Anti-Virus on the primary setup server. The path is specified relative to the database directory of the Domino server.

4. In the **Databases directory** field, enter the path to the directory in which the Lotus Notes databases for Kaspersky Anti-Virus will be installed. The default value of the field is the `kavdatabases` directory.

STEP 4. LAUNCHING AND PERFORMING AUTOMATIC INSTALLATION STEPS

This installation step consists of several stages. The stages are performed automatically. Some stages differ for primary setup (see section "Performing automatic stages for primary setup" on page 41) and installation on an additional server (see section "Performing automatic stages for installation on an additional server" on page 42). The list of stages is displayed in the lower part of the setup window.

Check the settings in the setup window carefully.

➡ *To start executing the automatic installation stages,*

click the **Next** button located under the list of stages.

The first stage will begin. On completion of each stage, a symbol is displayed in the list to indicate if the stage was completed successfully or returned an error. If the stage was completed successfully, the application will start the next installation stage.

If the stage returned an error, the installation will stop. In such case, make sure that all preparatory actions were correctly taken and repeat the stage. If an error occurs, you can also contact the Technical Support Service (see page 50).

To stop the installation, click the **Exit** button.

Information about events registered during installation are recorded in the setup log (kavsetuplog.nsf) and the Domino server log, output to the server console and displayed onscreen as messages.

On completion of the final automatic installation stage ("Generating environment variables"), the **License activation** and **Restart server** buttons are displayed under the list of stages (see figure below).

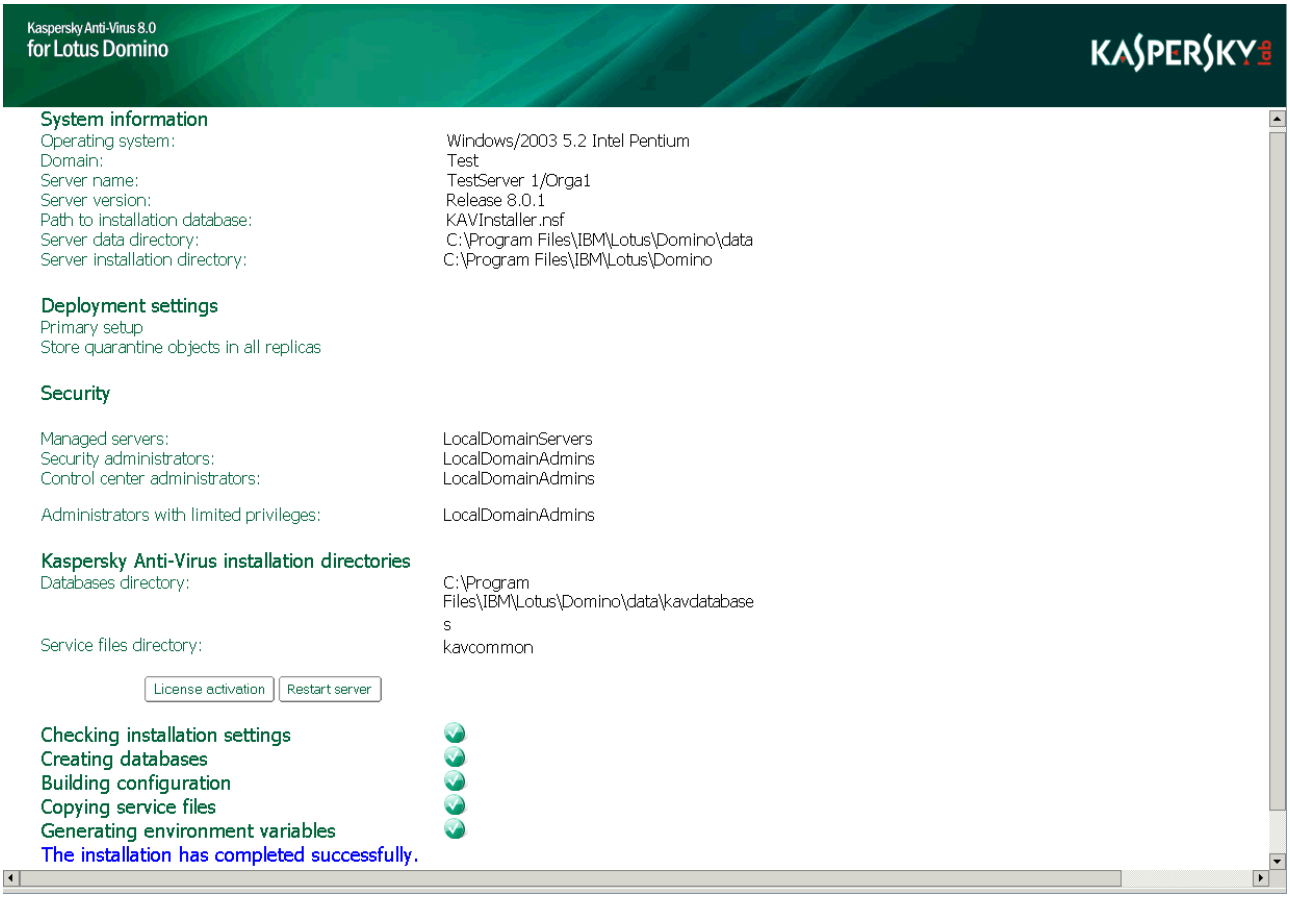

Figure 6: Successful installation completion window

You can move to the "Activating the license" step (see section "Step 5. Activate the license" on page 43) using the **License activation** button or skip this step and immediately perform the "Finishing the installation" step (see section "Step 6. Finishing the installation" on page 44) using the **Restart server** button. In this instance, the installation will finish without activating the license.

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Performing automatic stages for primary setup 41

Performing automatic stages for installation on an additional server 42

PERFORMING AUTOMATIC STAGES FOR PRIMARY SETUP

The automatic stages for primary setup are performed in the following order:

1. Checking installation setup.

   At this stage the installation settings are checked (see section "Primary setup: configuring settings" on page 38).

2. Creating databases.

At this stage the following databases are created in the directory containing the Kaspersky Anti-Virus databases:

- Setup log (`kavsetuplog.nsf`).
- Control center (`kavcontrolcenter.nsf`).
- Worklog and statistics (`kaveventslog.nsf`).
- Quarantine (`kavquarantine.nsf`).
- Help (`kavhelp.nsf`).
- Service database (`kavlocale.nsf`).

Each database is signed by the account of the server on which the installation is being performed.

An Access Control List (ACL) is generated for each database as soon as it is created. The groups of users and servers specified during configuring installation setupare used to generate the ACL (see section "Primary setup: configuring settings" on page 38).

Groups of users and servers are generated at the preparatory stage (see section "Preparing for installation" on page 29).

The ACL also include the Default and Anonymous records. They are assigned the No Access level.

3. Configuration.

   At this stage a profile for the protected server is generated in the Control center database.

4. Copying service files.

   At this stage the libraries, executable files and initial set of anti-virus databases are built up.

5. Generating environment variables.

   At this stage the paths to the Lotus Notes databases for Kaspersky Anti-Virus are automatically configured. On completion of the step, the message "Installation successfully completed" is displayed in the lower part of the setup window.

On completion of this step, you can click the **License activation** button to move to the "Activating the license" step (see section "Step 5. Activating the license" on page 43) or the **Restart server** button to move to the "Finishing the installation" step without activating the license (see section "Step 6. Finishing the installation" on page 44).

PERFORMING AUTOMATIC STAGES FOR INSTALLATION ON AN ADDITIONAL SERVER

The automatic stages for installation on an additional server are performed in the following order:

1. Checking installation setup.

   At this stage the installation settings are checked (see section "Installation on an additional server: setup" on page 39).

2. Configuration.

   At this stage information about the new server is added to the Control center database located on the primary setup server. The new server is added to same profile as the primary setup server.

3. Creating databases.

   At this stage replicas of the Kaspersky Anti-Virus databases created during the primary setup are made on the additional server.

   - Setup log (`kavsetuplog.nsf`).
   - Control center (`kavcontrolcenter.nsf`).
   - Worklog and statistics (`kaveventslog.nsf`).
   - Quarantine (`kavquarantine.nsf`).
   - Help (`kavhelp.nsf`).
   - Service database (`kavlocale.nsf`).

   Make sure that database replicas have been created on the additional server and completed entirely. If they have not, create database replicas again on the additional server. Only after that, when the automatic stages of the procedure are completed, you can start rebooting the server.

4. Copying service files.

   At this stage the libraries, executable files and initial set of anti-virus databases are built up.

5. Generating environment variables.

   At this stage the paths to the Lotus Notes databases for Kaspersky Anti-Virus are automatically configured. On completion of the step, the message "Installation successfully completed" is displayed in the lower part of the setup window.

   On completion of this step, you can click the **License activation** button to move to the "Activating the license" step (see section "Step 5. Activating the license" on page 43) or the **Restart server** button to move to the "Finishing the installation" step without activating the license (see section "Step 6. Finishing the installation" on page 44).

STEP 5. ACTIVATING THE LICENSE

The key file must be accessible via the file system of the client computer from which the installation database was opened.

➡ *To activate the license, do the following:*

1. Click the **License activation** button in the installation window.

   This opens a window to select the key file.

2. Select the key file and click the **Open** button.

As a result the license is automatically activated and a message appears onscreen to report its successful activation.

If during installation of the application the key file is not available, you can skip this step and activate the license later (see details in the Administrator's Guide). Close the window and continue to the next step.

The key file can also be installed via the interface of the Domino server console (see details in the Administrator's Guide).

STEP 6. FINISHING THE INSTALLATION

The Domino server needs to be rebooted to complete the installation. To do this, use the **Restart server** button.

If the installation is on an additional server, before rebooting the server make sure that the Kaspersky Anti-Virus databases have been successfully replicated.

The **Restart server** button is displayed in the setup window immediately on completion of the automatic installation stages at step 4 (see figure below). You can skip step 5 and complete the installation without activating the license. On completion of step 5 the **Restart server** button is also displayed in the setup window (see figure below).

To complete the installation of the application,

click the **Restart server** button.

The installation window will close. The Domino server will reboot.

SYSTEM MODIFICATIONS AFTER INSTALLATION

As a result of installing Kaspersky Anti-Virus, the following modifications are made to the system:

- files and directories are created (see section "Files and directories" on page 44).
- the Domino configuration file (notes.ini) is modified (see section "Modifying the Domino configuration file" on page 45).
- the list of processes is modified (see section "Modifying the list of processes" on page 45).

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Files and directories 44

Modifying the Domino configuration file 45

Modifying the list of processes 45

FILES AND DIRECTORIES

As a result of installing the application, the following directories are created on the server:

- `kavcommon` – the Kaspersky Anti-Virus service directory. The directory is located at the following address:
  - For Microsoft Windows operating systems – in the Domino server's directory of binary files (default path: C:\Program Files\IBM\Lotus\Domino).
  - For Linux operating systems - in the Domino server's data directory (default path: /local/notesdata).
- The directory containing the Kaspersky Anti-Virus databases is specified by the user during installation (see section "Step 3. Configuring installation settings" on page 37). The directory is located at the following address:
  - Under Microsoft Windows in the Domino server's directory of data files (default path: C:\Program Files\IBM\Lotus\Domino\Data).
  - For Linux operating systems - in the Domino server's data directory (default path: /local/notesdata).

The following databases are created in the directory containing the Kaspersky Anti-Virus databases:

- `kavsetuplog.nsf` (Setup log)
- `kavcontrolcenter.nsf` (Control center)
- `kaveventslog.nsf` (Worklog and statistics)
- `kavquarantine.nsf` (Quarantine)
- `kavhelp.nsf` (Help)
- `kavlocale.nsf` (Kaspersky Anti-Virus service database)

MODIFYING THE DOMINO CONFIGURATION FILE

As a result of installing the application, the following modifications are made to the Domino configuration file (notes.ini):

- the name of the `KAVControl` task is added to the ServerTasks variable so that the tasks is automatically launched on rebooting the Domino server.
- the line `kavmailhook` (Windows) or `<full_path_to_Domino_data_directory>/libnkavmailhook.so` (Linux) – the names of the libraries that trap documents - is added to the `EXTMGR_ADDINS` variable.
- the `EDITEXP1` variable is assigned the value `ASCII Text,2,_XTEXT,,.C,.H,.PRN,.RIP,.TXT,._UNKNOWN,,1`, which converts RichText fields for further scan.
- the `KAVDatabasesPath` variable is created, which specifies the path to the Kaspersky Anti-Virus databases.

MODIFYING THE LIST OF PROCESSES

As a result of installing Kaspersky Anti-Virus, the list of processes displays the following processes:

- `KAVControl` – control module.
- `KAVMonitor` – mail and replication scanning module.
- `KAVScanner` – database scanning module.

PREPARING FOR OPERATION

Kaspersky Anti-Virus starts automatically when the Domino server is started. Anti-Virus protection starts after Kaspersky Anti-Virus is installed and the server is loaded. The list of loaded processes includes the KAVControl, KAVMonitor and KAVScanner modules.

When the application is first launched, an attempt is made to update the anti-virus databases. The default update settings are used for this. If the network configuration differs from the default option, the update will return an error. The error message will be saved in the Worklog and statistics database and a notification will be sent to the administrators of the server and the profile that contains the server.

If the update returns an error, it is recommended that you configure the update settings and perform the anti-virus database update manually (see details in the Administrator's Guide).

Before starting Kaspersky Anti-Virus, you should activate the license to run the application on each server, if it was not activated during installation. The application will run with restricted functionality until the license is activated. The license activation procedure is described in the Administrator's Guide.

Kaspersky Anti-Virus is configured and operated via the Control center database interface `kavcontrolcenter.nsf`. A standard Lotus Notes client or web browser is used to connect to the `kavcontrolcenter.nsf` database. If a Lotus Notes client is used to operate the database, the security settings should first be configured on the workstation which will be used to connect to the server.

There is no need to configure the security settings on the workstation used to install Kaspersky Anti-Virus since they were configured when preparing for installation (see section "Configuring security settings for the Lotus Notes client" on page 33).

Add the account of the server used to sign elements of the Lotus Notes databases for Kaspersky Anti-Virus to the action control table (see figure below) and assign this account the following access rights and permissions to perform actions on the workstation:

- Access rights:
  - File system
  - Current Notes database
  - Environment variables
  - External programs
- Permissions:
  - Read other Notes databases

- Modify other Notes databases

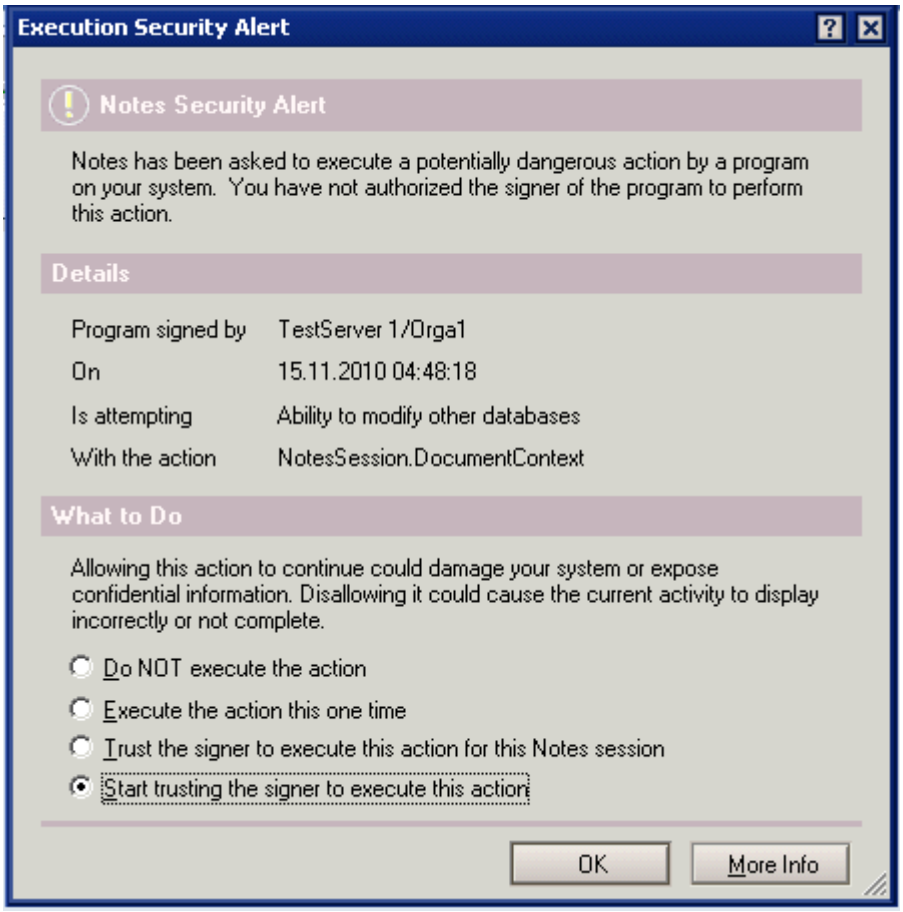
Execution Security Alert
Notes Security Alert
Notes has been asked to execute a potentially dangerous action by a program on your system. You have not authorized the signer of the program to perform this action.
Details
Program signed by TestServer 1/Orga1
On 15.11.2010 04:48:18
Is attempting Ability to modify other databases
With the action NotesSession.DocumentContext
What to Do
Allowing this action to continue could damage your system or expose confidential information. Disallowing it could cause the current activity to display incorrectly or not complete.
Do NOT execute the action
Execute the action this one time
Trust the signer to execute this action for this Notes session
Start trusting the signer to execute this action
OK
More Info

Figure 7: Adjusting the security settings of the Lotus Notes client to work with Anti-Virus

Setup is performed on each workstation from which the Control center database will be accessed.

DELETING KASPERSKY ANTI-VIRUS

Kaspersky Anti-Virus can be deleted using the installation database. The application is deleted on each server separately.

If a distributed deployment scheme is in use, you can delete Kaspersky Anti-Virus from all the servers on which it is installed, or from just one or several of them.

If you need to delete Kaspersky Anti-Virus from one or more servers, on each of these servers delete the application from one of the servers in the distributed deployment scheme (see section "Deleting from a server in a distributed deployment scheme" on page 49). On deleting Kaspersky Anti-Virus from one of the servers in a distributed deployment scheme, information about the server is deleted from the replicas of the Control center databases located on the remaining servers in the distributed scheme. Deleting Kaspersky Anti-Virus from one or more servers will not affect the application on the remaining servers.

If you need to delete Kaspersky Anti-Virus from all the servers on which it is installed, delete it consecutively on each server as on the last server in a distributed deployment scheme (see section "Deleting from the last server in a distributed deployment scheme" on page 48).

If Kaspersky Anti-Virus is installed in isolation, delete it as on the last server in a distributed deployment scheme (see section "Deleting from the last server in a distributed deployment scheme" on page 48).

Before deleting Kaspersky Anti-Virus, you should do the following:

- move the signed installation database to the data directoryg of the server from which the application is to be deleted (see section "Preparing the installation database" on page 32).
- make sure that the permissions are correctly configured for the server (see section "Setting server permissions" on page 31) and the user performing the deletion (see section "Setting permissions for the user performing the installation" on page 30).
- if the Lotus Notes client is used to delete the application, make sure that the security settings of the Lotus Notes client are adjusted (see section "Configuring security settings for the Lotus Notes client" on page 33).

IN THIS SECTION

Deleting from the last server in a distributed deployment scheme 48

Deleting from a server in a distributed deployment scheme 49

DELETING FROM THE LAST SERVER IN A DISTRIBUTED DEPLOYMENT SCHEME

To delete Kaspersky Anti-Virus from the last server in a distributed deployment scheme, do the following:

1. Open the installation database through the Lotus Notes client or web browser (see section "Step 1. Starting the installation" on page 35).

   This opens a window for deleting the application (see figure below). The deletion window displays system information, the list of deletion stages and the **Delete** button.

Figure 8: Application deletion window

2. Make sure that the **Deleting from the last server in configuration** check box is checked.
3. Click the **Delete** button.

   A query about rebooting the Domino server will be displayed onscreen. Confirm the reboot.

The first stage of deleting the application will begin. At this stage the modifications made as a result of installing Kaspersky Anti-Virus are deleted from the `notes.ini` file (see section "Modifying the Domino configuration file" on page 45).

On completion of the first stage, the server automatically reboots.

4. When the server has rebooted, reclick the **Delete** button in the deletion window.

   All remaining stages of the deletion are executed automatically.

   On completion of each stage, a symbol is displayed in the list to indicate if the stage was completed successfully or returned an error. If the stage returned an error, deletion of the application will halt. In this instance, you should close the window and repeat the deletion.

5. On completion of all stages of the deletion, close the deletion window.

DELETING FROM A SERVER IN A DISTRIBUTED DEPLOYMENT SCHEME

To delete Kaspersky Anti-Virus from one of the servers in a distributed deployment scheme, do the following:

1. Open the installation database through the Lotus Notes client or web browser (see section "Step 1. Starting the installation" on page 35).

   This opens a window for deleting the application. The deletion window displays system information, the list of deletion stages and the **Delete** button.

   If the Lotus Notes client is used to perform the deletion, clear the **Deleting from the last server in configuration** check box. The fields in the deletion window will be updated (see figure below).

2. In the **Primary setup server** field, specify the server on which the replicas of the Kaspersky Anti-Virus databases are stored. Select a server from the Address book of the Domino server by clicking the button to the right of the input field, or enter the name of the server manually.

3. In the **Databases directory for primary setup server** field, enter the path to the directory containing the Lotus Notes databases for Kaspersky Anti-Virus on the server selected at the previous step.

4. Click the **Delete** button.

   A query about rebooting the Domino server will be displayed onscreen. Confirm the reboot.

   The first stage of deleting the application will begin. At this stage the following operations are automatically performed:

   - the modifications made as a result of installing Kaspersky Anti-Virus are deleted from the `notes.ini` file (see section "Modifying the Domino configuration file" on page 45).

   - information from the replica of the Control center database specified at step 3 is deleted about the server from which Kaspersky Anti-Virus is being deleted.

   On completion of the first stage, the server automatically reboots.

5. The sequence of actions at this stage fully coincides with the sequence of actions at step 3 when deleting Kaspersky Anti-Virus from the last server in a distributed deployment scheme (see section "Deleting from the last server in a distributed deployment scheme" on page 48).

6. On completion of all stages of the deletion, close the deletion window.

CONTACTING TECHNICAL SUPPORT

If you have already purchased Kaspersky Anti-Virus, you can obtain information about it from Technical Support, either by phone or over the Internet.

Technical Support will answer any of your questions about installing and using the application. They will also help you to eliminate the consequences of malware if your computer has been infected.

Before contacting Technical Support, please read the Support rules for Kaspersky Lab's products (http://support.kaspersky.com/support/rules).

Email request to Technical Support

You can send your question to Technical Support by filling out the Helpdesk web form (http://support.kaspersky.com/helpdesk.html).

In order to send an email request, you must indicate the **customer ID** obtained during registration at the Technical Support website along with the **password**.

If you are not a registered user of Kaspersky Lab's applications yet, you can fill out a registration form at (https://support.kaspersky.com/en/personalcabinet/registration/form/). When registering, you will have to enter the *activation code* or the *name of your license key file*.

Technical Support will respond to your request in your Personal Cabinet (https://support.kaspersky.com/en/PersonalCabinet) and by the email you have specified in your request.

Describe the problem you have encountered in the request web form providing as much detail as possible. Specify the following in the mandatory fields:

- **Request type**. Select the subject that corresponds to the problem the most strictly, for example: Problem with product installation/uninstallation, or Problem with searching/eliminating viruses. If you have not found an appropriate topic, select General Question.
- **Application name and version number**.
- **Request text**. Describe the problem in as much detail as possible.
- **Customer ID and password**. Enter the client number and the password you have received during the registration at the Technical Support website.
- **Email address**. Technical Support will send an answer to your question to this email address.

Technical Support by phone

If you have an urgent problem you can call your local Technical Support. Before contacting Technical Support (http://support.kaspersky.com/support/international), collect all information (http://support.kaspersky.com/support/details) about your computer and the anti-virus software installed on it. This will allow our specialists help you more quickly.

GLOSSARY

A

ARCHIVE

A file "containing" one or several other objects that can also be archives.

D

DATABASE UPDATES

One of the functions performed by a Kaspersky Lab application that enables it to keep protection current. During the update, the databases are downloaded from the Kaspersky Lab update servers onto the computer and are automatically connected to the application.

K

KEY FILE

A file with the *.key extension that represents your personal "key" for work with the Kaspersky Lab application. The key file is included in the product distribution kit, if the product was purchased from a Kaspersky Lab distributor, or sent to you by email, if purchased from the eStore.

O

OLE OBJECT

An object attached to or embedded in another file. The application can scan OLE objects for viruses. For example, if you insert a table from Microsoft Office Excel into a Microsoft Office Word document, the table will be scanned as an OLE object.

U

UPDATE SERVERS

A list of HTTP and FTP servers at Kaspersky Lab from which the application copies databases and module updates to your computer.

KASPERSKY LAB

Kaspersky Lab was founded in 1997. Today it is the leading developer of a wide range of high-performance information security software products, including anti-virus, anti-spam and anti-hacking systems.

Kaspersky Lab is an international company. Headquartered in the Russian Federation, the company has offices in the United Kingdom, France, Germany, Japan, the Benelux countries, China, Poland, Romania and the USA (California). A new company office, the European Anti-Virus Research Centre, has recently been established in France. Kaspersky Lab's partner network includes over 500 companies worldwide.

Today, Kaspersky Lab employs over a thousand highly qualified specialists, including 10 MBA degree holders and 16 PhD degree holders. All the Kaspersky Lab's senior anti-virus experts are members of the Computer Anti-Virus Researchers Organization (CARO).

Our company's most valuable assets are the unique knowledge and collective expertise accumulated during fourteen years of continuous fighting against computer viruses. A thorough analysis of computer virus activities enables the company's specialists to anticipate trends in the development of malware, and to provide our users with timely protection against new types of attacks. This advantage is the basis of Kaspersky Lab's products and services. The company's products remain one step ahead of other vendors in delivering comprehensive anti-virus coverage to our clients.

Years of hard work have made the company one of the top anti-virus software developers. Kaspersky Lab was the first to develop many of the modern standards for anti-virus software. The company's flagship product, Kaspersky Anti-Virus, reliably protects all types of computer systems against virus attacks, including workstations, file servers, mail systems, firewalls, Internet gateways and hand-held computers. Its easy-to-use management tools maximize the automation of anti-virus protection for computers and corporate networks. A large number of developers worldwide use the Kaspersky Anti-Virus kernel in their products, including Nokia ICG (USA), Aladdin (Israel), Sybari (USA), G Data (Germany), Deerfield (USA), Alt-N (USA), Microworld (India), and BorderWare (Canada).

Kaspersky Lab's customers enjoy a wide range of additional services that ensure both stable operation of the company's products, and full compliance with the customer's specific business requirements. We design, implement and support corporate anti-virus systems. Kaspersky Lab's anti-virus database is updated every hour. The company provides its customers with 24-hour technical support in several languages.

If you have any questions, comments, or suggestions, you can contact us through our dealers, or at Kaspersky Lab directly. We will be glad to assist you, via phone or email, in any matters related to our products. You will receive full and comprehensive answers to all your questions.

Kaspersky Lab official site:	http://www.kaspersky.com
Virus Encyclopedia:	http://www.securelist.com
Anti-Virus Lab:	newvirus@kaspersky.com (only for sending suspicious objects in archives) http://support.kaspersky.ru/virlab/helpdesk.html?LANG=en (for sending requests to virus analysts)

INFORMATION ABOUT THIRD-PARTY SOFTWARE

Third-party software was used to create the application.

IN THIS SECTION

Software 53

Development tools 66

Other information 70

SOFTWARE

Information about third-party software used to create the application.

BOOST 1.30

Copyright (C) 2003, Christof Meerwald

EXPAT 1.2

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GECKO SDK 1.8

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That's all there is to it!

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